

### IN THE CLAIMS

Please amend the claims as follows:

1-17. (Canceled)

18. (Currently Amended) A programmer, comprising:

a selection module for receiving a selection of a clinical rhythm from a user, wherein the programmer is programmed to associate the clinical rhythm with available detection enhancements wherein the available detection enhancements are sets of rules used by a pulse generator to determine when the pulse generator is to deliver shock therapy and each detection enhancement includes at least one parameter, wherein the selection module is adapted to respond to the selection of the clinical rhythm by the user to make the available detection enhancements available for selection by the user for use by the pulse generator to determine when to deliver shock therapy for the selected clinical rhythm, wherein the selection module includes artificial intelligence adapted to automatically select a detection enhancement from the available detection enhancements, and automatically provide a setting for the at least one parameter for the automatically selected detection enhancement, the selection module being adapted to receive a user-provided selection of at least one other detection enhancement from the available detection enhancements in place of the detection enhancement automatically selected by artificial intelligence;

a parameter modification module for receiving a user input to change the automatically-provided setting for the at least one parameter of the selected detected enhancement; and

a communication module for communicating with a pulse generator to program the pulse generator with the automatically selected detection enhancement or the user-provided selection of at least one of the detection enhancements for use by the pulse generator to detect the clinical rhythm and the associated at least one detection enhancement,

wherein the available detection enhancements include a V Rate > A Rate enhancement for delivering therapy when a detected ventricular rate is determined to be greater than a detected atrial rate.

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19. (Previously Presented) The programmer of claim 18, wherein the selection module provides a capability for the user to select a number of tachyarrhythmia zones that are associated with the at least one parameter.
20. (Previously Presented) The programmer of claim 19, wherein the parameter modification module provides a capability for the user to change detection parameters for the number of tachyarrhythmia zones.
21. (Previously Presented) The programmer of claim 19, wherein the parameter modification module provides a capability for the user to change therapy parameters for the number of tachyarrhythmia zones.
22. (Previously Presented) The programmer of claim 18, wherein the parameter modification module provides at least one indicator for indicating whether a changed parameter has been programmed in the pulse generator.
23. (Previously Presented) The programmer of claim 18, wherein the artificial intelligence is adapted to track parameter interaction among the set parameters and the changed parameters, and provide at least one warning indicator for at least one parameter interaction.
24. (Canceled)
25. (Currently Amended) ~~The programmer of claim 18;~~ A programmer, comprising:  
a selection module for receiving a selection of a clinical rhythm from a user, wherein the programmer is programmed to associate the clinical rhythm with available detection enhancements wherein the available detection enhancements are sets of rules used by a pulse generator to determine when the pulse generator is to deliver shock therapy and each detection enhancement includes at least one parameter, wherein the selection module is adapted to respond to the selection of the clinical rhythm by the user to make the available detection enhancements available for selection by the user for use by the pulse generator to determine when to deliver

shock therapy for the selected clinical rhythm, wherein the selection module includes artificial intelligence adapted to automatically select a detection enhancement from the available detection enhancements, and automatically provide a setting for the at least one parameter for the automatically selected detection enhancement, the selection module being adapted to receive a user-provided selection of at least one other detection enhancement from the available detection enhancements in place of the detection enhancement automatically selected by artificial intelligence;

a parameter modification module for receiving a user input to change the automatically-provided setting for the at least one parameter of the selected detected enhancement; and

a communication module for communicating with a pulse generator to program the pulse generator with the automatically selected detection enhancement or the user-provided selection of at least one of the detection enhancements for use by the pulse generator to detect the clinical rhythm and the associated at least one detection enhancement,

wherein the available detection enhancements made available by the selection module for selection by the user include an AFib Rate Threshold enhancement for inhibiting ventricular therapy when a detected atrial rhythm is determined to be faster than a threshold.

26. (Currently Amended) ~~The programmer of claim 18,~~ A programmer, comprising:

a selection module for receiving a selection of a clinical rhythm from a user, wherein the programmer is programmed to associate the clinical rhythm with available detection enhancements wherein the available detection enhancements are sets of rules used by a pulse generator to determine when the pulse generator is to deliver shock therapy and each detection enhancement includes at least one parameter, wherein the selection module is adapted to respond to the selection of the clinical rhythm by the user to make the available detection enhancements available for selection by the user for use by the pulse generator to determine when to deliver shock therapy for the selected clinical rhythm, wherein the selection module includes artificial intelligence adapted to automatically select a detection enhancement from the available detection enhancements, and automatically provide a setting for the at least one parameter for the automatically selected detection enhancement, the selection module being adapted to receive a user-provided selection of at least one other detection enhancement from the available detection

enhancements in place of the detection enhancement automatically selected by artificial intelligence;

a parameter modification module for receiving a user input to change the automatically-provided setting for the at least one parameter of the selected detected enhancement; and

a communication module for communicating with a pulse generator to program the pulse generator with the automatically selected detection enhancement or the user-provided selection of at least one of the detection enhancements for use by the pulse generator to detect the clinical rhythm and the associated at least one detection enhancement.

wherein the available detection enhancements made available by the selection module for selection by the user include a Stability enhancement for inhibiting ventricular therapy when a detected atrial rhythm is determined to be unstable.

27. (Currently Amended) ~~The programmer of claim 18,~~ A programmer, comprising:

a selection module for receiving a selection of a clinical rhythm from a user, wherein the programmer is programmed to associate the clinical rhythm with available detection enhancements wherein the available detection enhancements are sets of rules used by a pulse generator to determine when the pulse generator is to deliver shock therapy and each detection enhancement includes at least one parameter, wherein the selection module is adapted to respond to the selection of the clinical rhythm by the user to make the available detection enhancements available for selection by the user for use by the pulse generator to determine when to deliver shock therapy for the selected clinical rhythm, wherein the selection module includes artificial intelligence adapted to automatically select a detection enhancement from the available detection enhancements, and automatically provide a setting for the at least one parameter for the automatically selected detection enhancement, the selection module being adapted to receive a user-provided selection of at least one other detection enhancement from the available detection enhancements in place of the detection enhancement automatically selected by artificial intelligence;

a parameter modification module for receiving a user input to change the automatically-provided setting for the at least one parameter of the selected detected enhancement; and

a communication module for communicating with a pulse generator to program the pulse generator with the automatically selected detection enhancement or the user-provided selection of at least one of the detection enhancements for use by the pulse generator to detect the clinical rhythm and the associated at least one detection enhancement,

wherein the available detection enhancements made available by the selection module for selection by the user include an Onset enhancement for inhibiting a therapy when a detected cardiac rate is determined to increase gradually.

28. (Currently Amended) ~~The programmer of claim 18,~~ A programmer, comprising:

a selection module for receiving a selection of a clinical rhythm from a user, wherein the programmer is programmed to associate the clinical rhythm with available detection enhancements wherein the available detection enhancements are sets of rules used by a pulse generator to determine when the pulse generator is to deliver shock therapy and each detection enhancement includes at least one parameter, wherein the selection module is adapted to respond to the selection of the clinical rhythm by the user to make the available detection enhancements available for selection by the user for use by the pulse generator to determine when to deliver shock therapy for the selected clinical rhythm, wherein the selection module includes artificial intelligence adapted to automatically select a detection enhancement from the available detection enhancements, and automatically provide a setting for the at least one parameter for the automatically selected detection enhancement, the selection module being adapted to receive a user-provided selection of at least one other detection enhancement from the available detection enhancements in place of the detection enhancement automatically selected by artificial intelligence;

a parameter modification module for receiving a user input to change the automatically-provided setting for the at least one parameter of the selected detected enhancement; and

a communication module for communicating with a pulse generator to program the pulse generator with the automatically selected detection enhancement or the user-provided selection of at least one of the detection enhancements for use by the pulse generator to detect the clinical rhythm and the associated at least one detection enhancement,

wherein the available detection enhancements made available by the selection module for selection by the user include a Shock If Unstable enhancement when a ventricular rhythm is determined to be unstable.

29. (Currently Amended) ~~The programmer of claim 18;~~ A programmer, comprising:

a selection module for receiving a selection of a clinical rhythm from a user, wherein the programmer is programmed to associate the clinical rhythm with available detection enhancements wherein the available detection enhancements are sets of rules used by a pulse generator to determine when the pulse generator is to deliver shock therapy and each detection enhancement includes at least one parameter, wherein the selection module is adapted to respond to the selection of the clinical rhythm by the user to make the available detection enhancements available for selection by the user for use by the pulse generator to determine when to deliver shock therapy for the selected clinical rhythm, wherein the selection module includes artificial intelligence adapted to automatically select a detection enhancement from the available detection enhancements, and automatically provide a setting for the at least one parameter for the automatically selected detection enhancement, the selection module being adapted to receive a user-provided selection of at least one other detection enhancement from the available detection enhancements in place of the detection enhancement automatically selected by artificial intelligence;

a parameter modification module for receiving a user input to change the automatically-provided setting for the at least one parameter of the selected detected enhancement; and

a communication module for communicating with a pulse generator to program the pulse generator with the automatically selected detection enhancement or the user-provided selection of at least one of the detection enhancements for use by the pulse generator to detect the clinical rhythm and the associated at least one detection enhancement,

wherein the available detection enhancements made available by the selection module for selection by the user include a Sustained Rate Duration (SRD) enhancement for overriding an inhibit therapy enhancement when a detected rate continues throughout a programmed time period.

30. (Previously Presented) The programmer of claim 18, wherein the at least one parameter includes at least one cardiac rhythm parameter that indicates when the at least one detection enhancement for the selected clinical rhythm applies.

31-34. (Canceled)

35. (Currently Amended) ~~The programmer of claim 34,~~ A programmer for a user to program a pulse generator with detection enhancements for use by the pulse generator to detect a clinical rhythm and apply therapy for the detected clinical rhythm, comprising:

a communications module for communicating with the pulse generator;  
control logic for programming the pulse generator using the communications module,  
wherein the control logic is adapted to program the pulse generator to detect and provide therapy for at least one clinical rhythm, to associate the clinical rhythm with available detection enhancements, to program the pulse generator with at least one selected detection enhancement from the available detection enhancements associated with the at least one clinical rhythm, and to program the pulse generator with at least one parameter for the at least one selected detection enhancement; and

a display connected to the control logic to provide a number of screen displays used by the user to select the at least one clinical rhythm and modify the selection of the at least one detection enhancement from at least one preprogrammed detection enhancement to at least one other detection enhancement from the available detection enhancements associated with the at least one clinical rhythm,

wherein the at least one selected detection enhancement is automatically seeded with a value for the at least one parameter, and the number of screen displays are used by the user to change the value for the at least one parameter,

wherein the number of screen displays are layered such a first screen display provides the user with the ability to select the at least one detection enhancement, and a second screen provides the user with the ability to change the value for the at least one parameter,

wherein the first screen includes a number of tachyarrhythmia zones, and the number of tachyarrhythmia zones ranges between one and three zones as determined by a user input, and

wherein each of the number of tachyarrhythmia zones includes a detection button, and selecting the detection button displays the second screen used to change detection parameters for at least one of the number of tachyarrhythmia zones.

36. (Currently Amended) ~~The programmer of claim 34,~~ A programmer for a user to program a pulse generator with detection enhancements for use by the pulse generator to detect a clinical rhythm and apply therapy for the detected clinical rhythm, comprising:

a communications module for communicating with the pulse generator;

control logic for programming the pulse generator using the communications module, wherein the control logic is adapted to program the pulse generator to detect and provide therapy for at least one clinical rhythm, to associate the clinical rhythm with available detection enhancements, to program the pulse generator with at least one selected detection enhancement from the available detection enhancements associated with the at least one clinical rhythm, and to program the pulse generator with at least one parameter for the at least one selected detection enhancement; and

a display connected to the control logic to provide a number of screen displays used by the user to select the at least one clinical rhythm and modify the selection of the at least one detection enhancement from at least one preprogrammed detection enhancement to at least one other detection enhancement from the available detection enhancements associated with the at least one clinical rhythm,

wherein the at least one selected detection enhancement is automatically seeded with a value for the at least one parameter, and the number of screen displays are used by the user to change the value for the at least one parameter,

wherein the number of screen displays are layered such a first screen display provides the user with the ability to select the at least one detection enhancement, and a second screen provides the user with the ability to change the value for the at least one parameter,

wherein the first screen includes a number of tachyarrhythmia zones, and the number of tachyarrhythmia zones ranges between one and three zones as determined by a user input, and



wherein each of the number of tachyarrhythmia zones includes a therapy button, and selecting the therapy button displays the second screen used to change therapy parameters for the number of tachyarrhythmia zones.

37. (Currently Amended) The programmer of claim 35 ~~claim 33~~, wherein the first screen displays detection enhancement rhythm discrimination categories.

38. (Currently Amended) The programmer of claim 35 ~~claim 33~~, wherein the first screen provides an ECG display.

39. (Currently Amended) The programmer of claim 35 ~~claim 31~~, wherein the detection enhancements include at least one inhibit therapy enhancement for inhibiting the therapy for the at least one clinical rhythm.

40. (Currently Amended) ~~The programmer of claim 39,~~ A programmer for a user to program a pulse generator with detection enhancements for use by the pulse generator to detect a clinical rhythm and apply therapy for the detected clinical rhythm, comprising:

a communications module for communicating with the pulse generator;  
control logic for programming the pulse generator using the communications module,  
wherein the control logic is adapted to program the pulse generator to detect and provide therapy for at least one clinical rhythm, to associate the clinical rhythm with available detection enhancements, to program the pulse generator with at least one selected detection enhancement from the available detection enhancements associated with the at least one clinical rhythm, and to program the pulse generator with at least one parameter for the at least one selected detection enhancement; and  
a display connected to the control logic to provide a number of screen displays used by the user to select the at least one clinical rhythm and modify the selection of the at least one detection enhancement from at least one preprogrammed detection enhancement to at least one other detection enhancement from the available detection enhancements associated with the at least one clinical rhythm.

wherein the detection enhancements include at least one inhibit therapy enhancement for inhibiting the therapy for the at least one clinical rhythm, and

wherein the detection enhancements include at least one override enhancement for overriding the inhibit therapy enhancement.

41. (Previously Presented) The programmer of claim 40, wherein the at least one inhibit therapy enhancement includes an AFib Rate Threshold enhancement for inhibiting ventricular therapy when a detected atrial rhythm is faster than a threshold.

42. (Previously Presented) The programmer of claim 40, wherein the at least one inhibit therapy enhancement includes a Stability enhancement for inhibiting ventricular therapy when a detected atrial rhythm is determined to be unstable.

43. (Previously Presented) The programmer of claim 40, wherein the at least one inhibit therapy enhancement includes an Onset enhancement for inhibiting a therapy when a detected rate increases gradually.

44. (Previously Presented) The programmer of claim 40, wherein the at least one override inhibit enhancement includes a V Rate > A Rate enhancement for delivering therapy when a detected ventricular rate is greater than a detected atrial rate.

45. (Previously Presented) The programmer of claim 40, wherein the at least one override inhibit enhancement includes a Shock if Unstable enhancement when a ventricular rhythm is determined to be unstable.

46. (Previously Presented) The programmer of claim 40, wherein the at least one override inhibit enhancement includes a Sustained Rate Duration (SRD) enhancement for overriding an inhibit therapy enhancement when a detected rate continues throughout a programmed time period.

47. (New) The programmer of claim 25, wherein the selection module provides a capability for the user to select a number of tachyarrhythmia zones that are associated with the at least one parameter.

48. (New) The programmer of claim 47, wherein the parameter modification module provides a capability for the user to change detection parameters for the number of tachyarrhythmia zones.

49. (New) The programmer of claim 47, wherein the parameter modification module provides a capability for the user to change therapy parameters for the number of tachyarrhythmia zones.

50. (New) The programmer of claim 25, wherein the parameter modification module provides at least one indicator for indicating whether a changed parameter has been programmed in the pulse generator.

51. (New) The programmer of claim 25, wherein the artificial intelligence is adapted to track parameter interaction among the set parameters and the changed parameters, and provide at least one warning indicator for at least one parameter interaction.

52. (New) The programmer of claim 26, wherein the selection module provides a capability for the user to select a number of tachyarrhythmia zones that are associated with the at least one parameter.

53. (New) The programmer of claim 52, wherein the parameter modification module provides a capability for the user to change detection parameters for the number of tachyarrhythmia zones.

54. (New) The programmer of claim 52, wherein the parameter modification module provides a capability for the user to change therapy parameters for the number of tachyarrhythmia zones.

55. (New) The programmer of claim 26, wherein the parameter modification module provides at least one indicator for indicating whether a changed parameter has been programmed in the pulse generator.

56. (New) The programmer of claim 26, wherein the artificial intelligence is adapted to track parameter interaction among the set parameters and the changed parameters, and provide at least one warning indicator for at least one parameter interaction.

57. (New) The programmer of claim 27, wherein the selection module provides a capability for the user to select a number of tachyarrhythmia zones that are associated with the at least one parameter.

58. (New) The programmer of claim 57, wherein the parameter modification module provides a capability for the user to change detection parameters for the number of tachyarrhythmia zones.

59. (New) The programmer of claim 57, wherein the parameter modification module provides a capability for the user to change therapy parameters for the number of tachyarrhythmia zones.

60. (New) The programmer of claim 27, wherein the parameter modification module provides at least one indicator for indicating whether a changed parameter has been programmed in the pulse generator.

61. (New) The programmer of claim 27, wherein the artificial intelligence is adapted to track parameter interaction among the set parameters and the changed parameters, and provide at least one warning indicator for at least one parameter interaction.

62. (New) The programmer of claim 28, wherein the selection module provides a capability for the user to select a number of tachyarrhythmia zones that are associated with the at least one parameter.

63. (New) The programmer of claim 62, wherein the parameter modification module provides a capability for the user to change detection parameters for the number of tachyarrhythmia zones.

64. (New) The programmer of claim 62, wherein the parameter modification module provides a capability for the user to change therapy parameters for the number of tachyarrhythmia zones.

65. (New) The programmer of claim 28, wherein the parameter modification module provides at least one indicator for indicating whether a changed parameter has been programmed in the pulse generator.

66. (New) The programmer of claim 28, wherein the artificial intelligence is adapted to track parameter interaction among the set parameters and the changed parameters, and provide at least one warning indicator for at least one parameter interaction.

67. (New) The programmer of claim 29, wherein the selection module provides a capability for the user to select a number of tachyarrhythmia zones that are associated with the at least one parameter.

68. (New) The programmer of claim 67, wherein the parameter modification module provides a capability for the user to change detection parameters for the number of tachyarrhythmia zones.

69. (New) The programmer of claim 67, wherein the parameter modification module provides a capability for the user to change therapy parameters for the number of tachyarrhythmia zones.

70. (New) The programmer of claim 29, wherein the parameter modification module provides at least one indicator for indicating whether a changed parameter has been programmed in the pulse generator.

71. (New) The programmer of claim 29, wherein the artificial intelligence is adapted to track parameter interaction among the set parameters and the changed parameters, and provide at least one warning indicator for at least one parameter interaction.

72. (New) The programmer of claim 35, wherein each of the number of tachyarrhythmia zones includes a therapy button, and selecting the therapy button displays the second screen used to change therapy parameters for the number of tachyarrhythmia zones.